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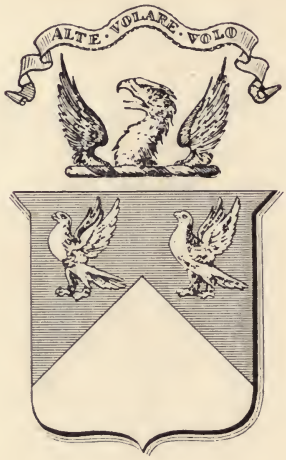

H. Morse Stephens

University of California

Department of Agriculture, Punjab.

CATTLE SURVEY

OF THE

AMRITSAR DISTRICT

BY

MAJOR G. K. WALKER, C.V.D.,

Chief Superintendent, Civil Veterinary Department, Punjab.

Lahore:
PRINTED AT THE "CIVIL AND MILITARY GAZETTE" PRESS,
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HENRY MORSE STEPHENS

The Cattle Survey of the Amritsar District.

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AMRITSAR DISTRICT.

I.—THE DISTRICT.

Geographical features.

1. The Amritsar District is a rectangular section of the country lying between the Beas and Ravi rivers which is known as the "Bari-Doab." The tract is uniformly level apart from the gentle slope from the Beas to the Ravi and down the Doab which broadens as the rivers diverge. The sandy ridge running down the centre and the perennial stream known as the Sakhi with other scarcely perceptible drainage lines are natural features of the district which is intersected with the various branches of the Bari Doab Canal.

The district is included in the Lahore Division of the Punjab, and the districts of Gurdaspur and Lahore are situated on its north-east and south-west sides.

It is divided into 3 tahsils or fiscal subdivisions named Amritsar, Tarn Taran and Ajnala, the last occupying all that portion which fronts the Ravi river and the two former abutting the Beas. That part of the district lying south of the Grand Trunk road is within the tract known as the Manjha.

The low-lying alluvial land on the banks of the rivers which changes year by year according to the action of the floods is called the "Bet." The total area of the district is 1,601 square miles of which about 1,482 are normally cultivated.

The population at the last census in 1901 was 1,023,825.

Climate.

2. Owing to the nearness of the hills and the prevalence of canal irrigation, the hot season in Amritsar is comparatively temperate. The hot season ends with September and hoar frost is common in January and February. At one time the Tarn Taran Tahsil was regarded as very healthy, being open and dry, but since the advent of flow irrigation it must share with the rest of the

district a reputation for being abnormally malarious. The only available figures show a range from 126° F. in May to 29° F. in December.

Rainfall.

3. The district has a fairly constant rainfall which varies inversely with the distance from the hills, ranging between 16 and 24 inches. The monsoon rains of 1908 were exceptionally heavy and brought up the total for the year at Amritsar City to 46·88. The average of previous years was 24·29. The district is for the most part secure against any serious failure of either summer or winter rains and it is further protected by ample irrigation from both canals and wells.

Soil.

4. The prevailing soil is a level alluvial loam varied by occasional small tracts of stiffer clay which are almost invariably fringed by uneven land more sandy in character than the average loam. The clay lands are formed in strips running down the 'Doab' along the natural depressions and in these tracts 'kalar' wastes (lands impregnated with salts) abound.

Cultivation.

5. The land is held almost entirely by small peasant proprietors, large estates covering only about 15,000 acres. In 1908-09 the cultivated area was 903,380 acres of which 500,318 were irrigated.

Irrigation.

6. Of the irrigated area in 1908-09, 174,056 acres were irrigated from wells, 297,683 from canals and 2,990 from other sources. The district is traversed by the Lahore Main, Kasur and Sabraon branches of the Bari Doab Canal from which 486 square miles or 311,040 acres can be irrigated annually. In 1908-09 there were 10,894 masonry wells worked with Persian wheels by cattle, besides 207 unbricked wells, waterlifts and lever wells. In the Amritsar Tahsil the usual depth down to the water is about 20 feet except in the highlands on the bank of the Beas where it may be as much as 50. In Tarn Taran the depth is ordinarily from 20 to 30 feet except in the "Bet," where it falls to some 12 or 13 feet. In the Ajnala Tahsil the ordinary depth is from 16 to 20 feet, but under 16 feet in the "Sailab" and

"Sakhi" lands. The inundated lands are chiefly on the Ravi but some lie on the Beas. Cultivation in the beds of the rivers is always precarious.

Floods and drainage.

7. In the rainy season, the Beas carries an immense body of water and in flood time may be nearly a mile in width and from 30 to 35 feet in depth. When the floods subside, usually in August, the higher portions of the inundated land are sown with coarse rice and pulses.

The Ravi when in flood encroaches impartially on either side and frequently causes considerable damage. It carries more fertilising silt than the Beas, however, and where this is thrown up heavy crops of wheat can be raised after the lapse of a year or two.

In the cold weather the river dwindles to an insignificant stream and owing to the Bari Doab Canal drawing off nearly all the water at Madhopur it is mainly made up from springs in its bed. The recession of the water has had an injurious effect on the fertility of the lands along the banks. Much of the moisture has gone out of the soil and the people have had to resort to well sinking where it was never required before. The constant complaint along the Ravi is that the river has gone back and left them high and dry, while recurring summer floods work damage in a few weeks which it takes a long time to repair.

The perennial stream, the Sakhi, rises in flood at times and the volume of water may be swelled by escape water let into it by a channel cut from the canal. At these times it is liable to cause a good deal of damage to the crops. Of the less important drainage lines the chief are the Patti Rohi, the Kasur nala and the Hudiara line. Considerable damage occurs to the cultivation lying in the tract of these drainage lines especially in the cold season when floods are not expected. In the summer, crops are not usually sown where flood water is likely to reach them.

Rukhs and forests.

8. There are four reserved forests with a total area of 2,886 acres under the Forest Department, and 119 acres of unclassed forest under the Deputy Commissioner.

The grazing in Sarai Amanat Khan rukh is fairly plentiful being canal irrigated but the quality is poor.

In Rukh Nag the land is good and the grazing fair.

The grazing in Rukhs Boharu and Gagrewal is poor. Most of the other rukhs have been almost entirely brought under cultivation by grantees who have been given proprietary rights in them and they are not now distinguishable from the surrounding cultivation.

Grazing rights.

9. The grazing rights of each reserve are ordinarily leased out to a contractor for a year who pays a certain sum and takes fees for all animals grazed according to the following fixed rates :—Buffaloes, Rs. 1-9-6 each; cows and bullocks, 0-12-9 each; horses, 0-12-0 each; asses or mules 0-6-0 each, and sheep and goats, 0-1-6 each per annum. Young animals under one year are exempted. The fees appear to be very low but it is understood that contractors manage to increase the charges by levying fees more than once a year in some of the reserves.

When the reserves are not given out on contract grazing permits are issued by the Forest Department. The inhabitants of the surrounding villages appear to appreciate the grazing in some instances and not in others. It probably depends a good deal on the popularity of the contractor and the quantity of the grass.

The villagers of Gagrewal told me that they took up the contract themselves not because they valued the grazing but because if they did not rent it and their cattle strayed into the reserve they were put to a good deal of inconvenience.

II.—THE CATTLE OF THE DISITRICT.

Number of cattle.

10. Statement I shows the number of animals in the district at the last quinquennial enumeration (1909) by tahsils. The figures of the previous census (1904) are given also for comparison. Those for Amritsar City and suburbs are shown separately. It may be said that the year 1908-09 was the worst for cattle that has been known for a long time in the Amritsar District. The

mortality was very severe both among cattle and goats. The year was a very unhealthy one both for animals and human beings. Bulls and bullocks show a decrease of 12 per cent. and cows 11 per cent. over the previous census returns. The primary cause was the excessive rainfall in the autumn of 1908 (93 per cent. above the normal). The floods destroyed a large precentage of the forage crops especially in the Ajnala Tahsil. As mentioned in Chapter IV under diseases of cattle, a large number of cattle, goats and sheep died of 'gillar,' a disease to which impoverished cattle are very susceptible. A large number of animals died of starvation also and they were not included generally in the disease returns. In addition many were sold at the Amritsar fairs owing to their owners being unable to provide food for them. The majority of these were probably practically useless for purposes of agriculture and milk production. A glance at the figures for the province will show that Amritsar was exceptional in its losses which were due to special local conditions.

Breeds of cattle

11. It may be stated that whatever Amritsar District may have been in the past it is no longer a cattle-breeding district in the broad acceptance of the term, neither does it produce any special breed. At one time the Manjha was celebrated for superior cattle especially in the more pastoral parts of the Lahore District. But since the tract has come under flow irrigation there has been insufficient grazing and the cattle have become mainly stall-fed. The consequence is that the Manjha is no longer a distinct breed, most of the best bullocks being imported from cattle-breeding districts. It may be said, however, that the Manjha cattle are superior to any others in the Amritsar District in point of size and quality, and it is possible that some of the characteristics of the true Manjha type still persist. The cultivators in that part of the district are more disposed to keep a better class of animal than those in other parts of the district. Moreover the work demands the keeping of good bullocks both for plough and transport. Trotting bullocks are not in much demand as the people usually either ride ponies or walk. Moreover roads and railways are fairly convenient in the Amritsar District. The original Manjha type was a very compact and sturdy animal usually grey in colour. The Manjha agriculturists

still prefer this type. They lay great stress on having active and willing bullocks and generally manage to obtain them though they have to pay heavily now-a-days.

The cattle found in the Ajnala Tahsil are very inferior and in many cases miserable specimens. They possess no special features being of a nondescript variety possessing some characters of the hill breeds. The people generally neither require nor desire better animals though a few of the more enterprising recognise the desirability of improving them.

The cattle in the Amritsar Tahsil are intermediary between those of Tarn Taran and Ajnala being inferior to the former in size and quality.

Sources of supply.

12. The cultivators of the Tarn Taran and Amritsar Tahsils import a large number of their bullocks but those in the Ajnala Tahsil are more dependent on the stock of the neighbourhood. The former obtain most of their best animals from the Malwa tract and from the Hissar and Rohtak Districts preferring those of moderate size. They are not adverse to Bhaguari (Sindh) animals. They visit other districts and cattle fairs periodically to buy cattle and frequently give big prices. This requires ready money however which is not always available. The consequence is that many men have to buy from cattle dealers who do a thriving trade in this district. These are usually "Aroras" of the Mianwali, Shahpur, Mooltan, Dera Ismail Khan and Bannu Districts and their trade must be very lucrative in spite of bad debts. It is understood that they refuse to sell for cash preferring the credit system. This usually consists of payment in two half-yearly instalments, each instalment being about the original value of the animal purchased.

Suitability of bullocks.

13. As hitherto it has been possible to purchase bullocks from without, the working animals seen in the Manjha are fair animals on the whole and suitable for the work required of them. But it becomes more difficult every year to pay the prices demanded which are increasing with extraordinary rapidity. This is a natural result of increased demand and increased cost of

production. In the poorer parts of the district the people have to put up with inferior animals that are not up to the work. It is a noteworthy fact that buffaloes are being used much more in ploughs by the poorer cultivators every year and this is due to the high price of bullocks.

Condition of cattle breeding.

14. Owing to the lack of grazing grounds the condition of cattle breeding is unsatisfactory. It is true that there are still considerable grazing facilities in the 'Bet' lands but the grass is very poor in quality and the conditions very unhealthy for cattle. As far as possible cultivators should be encouraged to breed their own bullocks and sufficient grazing areas should be provided for them whenever practicable. Since grazing facilities have disappeared buffaloes have to a great extent taken the place of cows for milk and ghi production as they accommodate themselves better to a stall-fed existence and pay better under these conditions. The importance of breeding bullocks has been overlooked as it has been possible to buy them. There is a growing tendency, however, to take more care of the male calves with a view to their making useful bullocks. The advantages to be gained by obtaining the services of a good bull for their cows are quite appreciated by the inhabitants of the Manjha at least and they frequently take their cows considerable distances for service. This increased interest in breeding is a very healthy sign.

Supply of Bulls. Statement No. II.

15. The problem of the satisfactory supply of bulls is a very difficult one. Ownerless bulls are no longer treated with the respect they were but are regarded as a tax on local resources as no doubt they are. Dedicated bulls are generally very bad specimens and though they may be tolerated they are rarely serviceable animals. Government bulls not being dedicated may be popular or unpopular according as their services are regarded.

Statement II shows the number and distribution by tahsils of bulls used exclusively for breeding in the district. It should be recognised that many of the cows are served by the young males that are found in every village herd and have not yet been castrated and put to work.

For the last 20 years or more Hissar bulls have been spasmodically distributed in the district by the local authorities but no proper record

appears to have been kept and no supervision or check of any kind exercised over them. The people of the Tarn Taran and Amritsar Tahsils appear to regard these bulls with favour and acknowledge the benefits derived from them. The fact was referred to by Captain Gunn when in 1896 he found 31 Government bulls in the district. There are very few Government bulls in the district now though, and the people refer to this fact with regret. For many years no bulls were purchased at all, due doubtless to want of funds. The following statement shows the number of district board bulls distributed since 1904-05, the only years for which figures are available :—

	Balance at the beginning of the year.	Obtained during the year.	Casualties during the year.	Balance at the end of the year.
1904-05	9	...	...	9
1905-06	9	...	...	9
1906-07	9	...	6	3
1907-08	3	...	...	3
1908-09	3	13	4*	12

* One strayed.

The Government grant for veterinary improvements enabled the District Board to purchase 13 bulls in 1908-09; of these 4 were obtained from Hissar and 9 from the Jhelum District.

The bulls shown in column 5 of Statement II with the exception of the 9 Potwar bulls obtained from the Jhelum District are all nondescript animals mainly without owners. Whilst a few may be deemed to be useful

animals the majority can only be described as bad and quite unsuitable for the work required of them. The people themselves would be glad to get rid of the bad ones but are unwilling to assist actively in disposing of them. It may be stated that the supply of efficient bulls is perfectly inadequate and the fact is well recognised and lamented by the people themselves.

Class of bulls required.

16. As stated above, the Hissar bull of moderate size is suitable for the Manjha in the absence of good specimens of the indigenous breed. It is doubtful if any of the private bulls roaming about the district belong to the original Manjha type and they are usually described as 'desi' (country).

On the Ajnala side of the district, however, the Hissar bull is not suitable and there the Potwar (Dhanni) breed from the Jhelum district is indicated and moreover appreciated by the people. For all practical purposes it may be said that south of the Grand Trunk road Hissar bulls are suitable and that north of it Potwar (Dhanni) bulls should be imported.

Management of bulls.

17. The difficulties connected with the upkeep and management of district bulls become greater year by year. The people require bulls and appreciate them keenly but the responsibility of keeping them is not sought after. It appears to be unsound to give allowances for the upkeep of public bulls and moreover such an arrangement would be too great a tax on public funds. The present position is that while agriculturists are very keen on obtaining the services of a good bull for nothing, the headmen, who are held responsible for the welfare of bulls placed in their charge, are unwilling to undertake their responsibility. Moreover, in too many cases the responsibility is very imperfectly regarded, and bulls are illtreated or allowed to stray. If leading men could be induced to keep good stud bulls themselves and charge reasonable stud fees the question would be practically solved, but there is considerable aversion at present to the idea of charging for the services of a bull. A good scheme would be to assist any man willing to keep an approved bull by paying a portion of the purchase money from public funds or from a fund created for the purpose.

Milch cattle.

18. The cows met with in the district of Amritsar are very ordinary and present no special features. It is exceptional to see a really good cow in the villages. In the large towns a good cow is occasionally seen. Such animals are usually the property of wealthy landowners or shopkeepers. The cows belonging to the ordinary cultivators are generally miserable creatures. This is due to a great extent to the custom of neglecting cow calves. It is a very regretable feature that the ordinary cultivator cannot be got to see the advantage of feeding his cows and calves more generously.

The cows of Amritsar city.

19. The cows belonging to the "Gujars" of Amritsar city deserve special mention as there are some very good ones to be found. The number has decreased since the last census in conformity with the general figures of the district and the number of cow buffaloes has increased in proportion. This is probably accounted for by the difficulty experienced in buying good cows. Some of the "Gujars" breed good animals but in general they starve the calves to sell the milk. There is not such a good market for buffalo milk as that of cows in Amritsar, as that of the latter is preferred for drinking. The difficulty is got over by mixing the milk of the two and selling it as cow milk. The "Gujars" are good judges of milch cattle and generally possess some fair bulls. What appear to be nearly pure specimens of the well known Sahiwal (Montgomery Bar) breed are found occasionally and they are valued accordingly. The "Gujars" sell a considerable number of cows to people who are prepared to pay their prices which are high. They are adepts in feeding milch cows to produce an increased secretion of milk. They give the husks of rice and gram very largely and "masalas" (spices) of various kinds. They are not concerned so much with the richness of the milk as they do not make ghi or butter to any extent. They sell milk to the citizens of Amritsar at from 2 to 3 annas a seer. At the Amritsar cattle shows they take considerable sums in prize money for their cows and buffaloes.

The management of cattle.

20. There is little to record in regard to the management of cattle in the Amritsar District. There are no special features compared with other districts. There is no doubt that there is very great room for

improvement in the management of cattle particularly in regard to housing and hygiene generally. Every improvement, however, must entail extra expense and it will be many years before it can be shown practically that the advantages to be gained are worth the expense entailed. As cattle get more valuable more care will be bestowed upon them and better and more careful management will gradually be adopted. In the meantime the best that can be done is to spread knowledge by means of ocular demonstration. The stables and veterinary hospitals that are being built and equipped by Government and local bodies are excellent object lessons in this respect and it behoves the leading agriculturists to copy them as far as possible. Dairies properly built and equipped at convenient centres would be even more valuable. The knowledge spread by books and pamphlets cannot be compared to object lessons of this kind and any money spent on buildings and demonstrations connected with the up-keep and management of animals is well worth the expenditure. The cavalry sowar who has learnt the elements of stable management is an educational factor already.

It is to be hoped that the veterinary and agricultural graduates who are now being scattered over the country will serve a useful purpose in instilling the principles of the good management of animals in those with whom they come in contact.

III.—OTHER ANIMALS.

Buffaloes.

21. At one time the prosperity of the Punjab agriculturist was judged to a great extent by the number of cow buffaloes in his possession. This applied more faithfully when the produce of the buffalo was for home consumption. But the contraction of grazing in districts like Amritsar has led to buffaloes being kept instead of cows as it pays better to stall-feed a buffalo than a cow. Owing to the great demand for ghi many men keep one cow buffalo where they formerly kept two cows. The idea obtains that the cultivation bullocks will be purchased with the money earned by the sale of the ghi from the buffalo. This scheme worked until the rise in price

of bullocks disarranged the economic scales. The consequence is that there is a decided tendency to return to cow keeping. In the interval the cows have deteriorated in quality and fallen off in numbers.

A study of the Provincial figures for the last cattle census shows that with the exception of Karnal there are more buffaloes to the acre in Amritsar District than in any other in the Punjab, the percentage working out to ·15 to the acre. Karnal District, however, contains a large number of cows as well as buffaloes. In 20 districts there are more cows to the acre than buffaloes (male and female) and in 9 there are more buffaloes than cows. In Amritsar there are less cows in proportion to buffaloes than in any other district in the Punjab. Amritsar then is well supplied with buffaloes.

There is no special breed though those found in the Manjha are superior in size and quality. The increased facility of communications and the increase in the number of fairs is all against special breeds especially as the people themselves do not take any intelligent interest in the matter.

The buffaloes of the Manjha are large animals with scanty hair, fine skins and long thin tails, all marks of good quality. Most of them have well developed mammary glands and are good milkers. The animals that are preferred to any others are called "Kundi," *i.e.*, they have small spirally twisted horns. Black (kali) buffaloes are more popular than brown (bhuri) but the latter are not generally objected to.

The favourite colour is black with a white star and white legs (panj kalyan). An animal with two "wall" eyes (billi) is considered lucky. One "wall" eye (kamandli) is unpopular.

Buffaloes do very well in the "bet" lands and large herds may be seen sometimes. They thrive well on the coarse grasses of these low-lying pastures. Unfortunately a large number die from hæmorrhagic septicæmia which is endemic in low-lying villages. It is particularly virulent after rian and buffaloes, particularly the young ones, are highly susceptible.

Milk and ghi production.

22. Female buffaloes are highly valued by the people owing to their great milk producing powers. The milk is made into ghi and sold and the butter-milk used for home consumption. The purchaser is usually the local bania who collects it and sends it to the big cities and towns in large quantities. In many cases it is taken as payment in kind of advances in cash for purchase of bullocks, seed, marriages, etc. Even though the cost of buffaloes and their upkeep has increased of late years, they must be a source of considerable profit.

Cow buffaloes give from 4 to 15 seers of milk per diem and a very fair average is 8 seers or, deducting that taken by the calf, 6 seers. As 16 seers of milk will produce about one seer of ghi and the present wholesale price of ghi is one rupee a seer; it is obvious that for at least eight months of the year a cow buffalo is a very lucrative possession to the cultivator who has the available fodder. The bania or middleman probably gets a big proportion of the profit, however.

Work.

23. Male buffaloes are used for work much more than formerly and the larger ones are very powerful. The Manjha animals have the reputation of being good workers though like all buffaloes they are slow and cannot stand the heat of the sun. It is usual to yoke a buffalo with a bullock in order to make him move quicker. Cow buffaloes that are barren may be used for work also. At one time it was customary to kill most of the male buffaloes soon after birth, but there is a good demand for them now-a-days at the various fairs for work and for slaughter, hides having become very valuable.

Breeding.

24. The people take considerable interest in buffalo breeding and in some cases take their cows considerable distances to be covered. Good bull buffaloes (malis) are occasionally seen but they are few in number and quite insufficient for the needs of the people. The usual covering fee is 8 annas to 1 rupee. It is a pity that selected bulls are not kept in larger numbers. The people invariably expressed a wish to have one where none was available, but the necessary enterprise to keep a bull is wanting. Consequently most of the cow buffaloes are served by the young males that run with the

herds. Cow buffaloes breed usually at four years old and produce up to about 10 calves. The "Gujars" of Amritsar City have some good buffaloes and the tendency is to keep more, good cows being difficult to obtain. Milk for drinking purposes being in great demand in large cities, ghi is not made to the extent it is in villages.

Camels.

25. Comparatively few camels are kept in the Amritsar District and the number tends to decrease every year. Camels in irrigated tracts where there are good communications are obviously bound to disappear unless artificially encouraged. The few camels kept in the Amritsar District by a few men who let them on hire for carrying baggage present no special features. They are on the whole very inferior specimens.

Horses.

26. Amritsar is a selected district under the Army Remount Department and efforts are made to induce the people to breed remounts.

It is doubtful if much success is obtained as the people are not very keen and there are comparatively few good mares in the district. The horses in the Tarn Taran Tahsil are superior to those in the other parts of the district. The census figures show an increase in the number of horses and ponies kept which is probably attributable to increased prosperity. The district is apt to suffer considerably from "surra", however, and but for the losses in 1908, which were rather severe, the total number of horses would probably have been more at the last census.

Mules.

27. The number of mules has increased considerably during the last five years due to a great extent to increased recognition of the usefulness and market value of these animals. Many of the mares in the district are more suitable to mule breeding than horse breeding and the former industry is more profitable in consequence.

Donkeys.

28. Donkeys have decreased in number according to the last quinquennial census. The low-caste people who keep them find it increasingly difficult to provide food for them as they do not calculate to purchase fodder to any extent and

it is not so easy for donkeys to live the parasitic existence they did at one time. There was considerable mortality among donkeys in the Amritsar District in 1908 from disease and starvation.

Horse and mule breeding.

29. The Army Remount Department keeps 6 horses at stud in the district and 14 donkeys for mule breeding. In addition, 10 pony stallions are kept by the district board for pony breeding under the supervision of the Army Remount Department. The following figures which have been kindly supplied by the Superintendent show the number of branded mares and the number of young stock got by Government and district board stallions during the past five years.

Years.	Branded mares.	Young stock by Government and District Board Stallions.		
		Horses.	Donkeys.	D. B. Ponies.
1903-04	519	93	273	61
1904-05	534	99	260	30
1905-06	429	148	378	29
1906-07	423	171	165	75
1907-08	501	127	158	85

Sheep.

30. The cultivators of the Amritsar District do not keep sheep but there are a few herds belonging to the "kamins" (village menials).

The number has decreased according to the last census mainly owing to the mortality in the autumn of 1908 from parasitic disease (gillar).

The sheep of the Amritsar District present no special characteristics being of the ordinary 'desi' or indigenous variety. They are usually white in colour with brown markings but some are black. The males are sold to butchers who take them to the larger cities and cantonments for sale.

The ewes are bred from until they are about five years old and then sold. Lambs are usually dropped in February and in some cases again in August. The usual price of a sheep is Rs. 5 to Rs. 6. Castration is not practised. Sheep are generally clipped twice a year after washing. The wool sells for about 1 to 1½ seers per rupee. Very few sheep of the 'desi' variety give more than a seer at each clipping.

Sheep skins are sold for about one rupee each to wandering merchants who take them to Lahore or Amritsar where they are made into shoes and other leather articles including 'mashaks' (water skins). Sheep pick up what they can, leading a parasitic existence. There are no sheep pastures.

The time has not yet arrived for sheep breeding to be taken up seriously in the plains and in any case irrigated districts like Amritsar would not be suitable to the industry. Systematic sheep breeding may eventually be taken up in suitable tracts both for wool and meat and is deserving of every encouragement as there is room for great improvement.

Goats.

31. The decrease in the number of goats is a very notable feature of the last census. This is due partly to the mortality in the autumn of 1908 referred to above and partly to the increasing difficulties experienced in keeping them. The cultivators keep very few goats themselves and the "kamins" find it difficult to obtain sufficient pasturage as they are not generally allowed to take them into the fields. The goats found in the Amritsar District are of the usual 'desi' variety, and are black, white, black and tan, black and white or white and tan in colour. A large number of goats are kept in Amritsar City and their milk is sold from house to house. It is regarded as being especially suitable for children. A good goat will give 3 seers of milk a day. The males and females are sold to butchers and others and fetch Rs. 6 to Rs. 7 each. Good female goats sell for as much as Rs. 15 to Rs. 20 and males for the stud for Rs. 20 to 25.

Goats are generally clipped in the spring and the hair is used to make ropes, saddle bags and a coarse cloth called 'Tappar.' Goats skins fetch about Rs. 1-8 each and are chiefly used to make 'mashaks' which

when prepared are worth from Rs. 3 to Rs. 4. Goats and sheep are kept in 'baras' (enclosures) fenced with brushwood and in the cold seasons 'chuppars' (thatched huts) are provided for shelter.

IV.—DISEASES OF CATTLE.

Mortality.

32. It may be stated that until recently no reliable statistics in regard to the mortality of cattle and other animals have been available. The only information recorded in the past was obtained from figures supplied by veterinary assistants who only reported deaths in outbreaks brought to their notice and attended by them. In 1907 a system by which it was made incumbent on patwaris to submit monthly returns to the Civil Veterinary Department was introduced, and valuable information is obtained by this means. There is no doubt that many deaths are not reported but as confidence increases suspicion will gradually disappear.

A certain amount of confusion in nomenclature is inevitable but this is to a certain extent remedied through the agency of the veterinary staff and will decrease as that staff increases.

It may be said that the year 1908-09 was a particularly bad one for cattle in the Amritsar District, a large number dying from disease.

The following table shows the mortality from the principal epidemic diseases during the year 1908-09 as reported by patwaris :

	Bovines.		Equines.		Others.	
	Attacked.	Died.	Attacked.	Died.	Attacked.	Died.
Rinderpest	80	54	...	...	...	...
Hæmorrhagic septicæmia ...	1,870	1,547	...	...	90	87
Foot and mouth disease ..	405	6	...	...	...	...
Other diseases	903	674	...	...	298	202
Total ...	3,258	2,281	...	...	388	289

Rinderpest.

33. Rinderpest is usually prevalent at some period of the year in epidemic form and the spread of infection may be generally traced to the cattle of itinerant dealers specially at the time of the fairs which are held at Amritsar twice a year. The villages adjacent to the main road suffer the most in consequence. The disease affects cattle and buffaloes and sometimes goats and sheep.

Although the people recognise the source of contagion they rarely attempt to protect their own interests. The mortality is always greatest at the commencement of an outbreak, one reason being that the most susceptible animals are the first to be attacked. Unless the disease is especially virulent the usual percentage of deaths of those attacked is about 50 per cent. It is more prevalent in the rainy and cold seasons of the year and in the low-lying parts of the district as the virus is favoured by these conditions. It is not very resistant to a hot and dry climate and consequently is not so prevalent in the hot season. Rinderpest has lost many of its terrors since preventive inoculation was introduced and, though some of the less enlightened of the agriculturists do not care for the method and in some cases oppose it, it may be said that the people are getting accustomed to it and where it has once been introduced are usually in favour of it. If it was only possible to practise effective methods of disinfection and disposal of carcases, rinderpest could be very satisfactorily dealt with by a competent and sufficient veterinary staff.

The people themselves treat isolated cases of rinderpest with drenches of milk, *ghi* and *gur* followed up with nitre, *chirreta* and salt, but when the disease is found to be epidemic they give up medicinal treatment and resort to mystical spells and sorcery through the agency of some mendicant.

Foot and mouth disease.

34. Foot and mouth disease is frequently very extensive and spreads with great rapidity from village to village being very infectious. Like rinderpest it is spread by cattle-dealers, and often appears after the Amritsar fairs, spreading from the main roads. It does not usually cause much loss of life. It mainly affects cattle and buffaloes, but all animals including humans appear to be susceptible. The normal mortality is from 2 to 5 per cent. and deaths occur

generally in young or weak animals or from complications. The disease causes great inconvenience if it breaks out at a season when animals are required for urgent work as it incapacitates them temporarily. Frequently, however, animals are to be found at work with the disease on them and when used in this way on lines of communication they are a great source of infection. The people treat this disease fairly intelligently using, as a rule, decoctions of "*neem*" or "*kikar*" bark as dressings, but frequently maggots get in the wounds and they find this condition difficult to deal with.

The veterinary staff are able to render excellent service by treating cases and their treatment is becoming popular. In a wide-spread epidemic such as the recent one (1909), which affected all parts of the Punjab, it was impossible to provide veterinary attendance at more than a percentage of the outbreaks but the people themselves came in large numbers to the hospitals for dressings which were highly popular.

At one time isolation of affected cases was recommended in this disease but it was practically impossible to carry out and is no longer attempted. As a matter of fact it is not necessary or even advisable in existing circumstances.

Hæmorrhagic septicæmia.

35. The disease hæmorrhagic septicæmia is common in the district and causes a good deal of loss especially among buffaloes, but cattle are also severely affected. The usual mortality among animals attacked is from 90 to 100 per cent. It is prevalent in the rainy season or rather immediately after the rains. It is most common in the autumn, but it frequently occurs in the spring. The causes that lead to its spread and the method of infection require further investigation. It occurs regularly in dirty and badly drained villages and may be regarded as a disease of unhygienic surroundings. There is no doubt that it would be heard of less if the people could be persuaded to keep their cattle under more sanitary conditions. No satisfactory method of treating this disease has yet been found. The writer has tried a great number without success. Native owners are in the habit of firing the throats of affected animals, a swelling of the throat being a prominent symptom.

A method of preventive vaccination against this disease is now under trial in the field, the cattle in some villages of the Lahore District having been treated.

Anthrax.

36. Anthrax was at one time commonly reported amongst cattle, but it was confused with the above disease. Since the diseases were correctly classified anthrax is rarely reported. The writer has himself made a number of examinations of cattle said to be suffering from anthrax in the Amritsar District but has invariably made a negative diagnosis, the disease usually proving to be hæmorrhagic septicæmia.

Blackquarter.

37. Blackquarter does not appear to be common in the district. When it does occur it is usually described as *goli* referring to the swelling, and it may also be called *zahrbad*.

Zahrbad.

38. *Zahrbad* is a word in common use to describe diseases in which any swelling is a prominent symptom and includes lymphangitis and cardiac diseases in which œdema occurs.

The word *villa* is also used to describe similar conditions especially if tympanitis is a prominent symptom.

Gillar.

39. Endemic or parasitic (verminous) anæmia or *gillar* appears to have become more common of late years and the autumn of 1908 must be regarded as having been particularly bad, most of the deaths under the head of other diseases having been caused by it. The vernacular name is derived from the œdematous swelling that invariably appears in the submaxillary space. Goats and sheep are more frequently attacked by this disease and it is well known and recognised by shepherds. Cattle appear to have been attacked in large numbers for the first time in 1908. Previously, the disease was mainly confined to goats and sheep.

In the low-lying Ajnala tahsil the losses in the past year among cattle from this disease were very serious and few villages were visited where it had

not been responsible for a large number of deaths. The mortality amongst goats and sheep was very great. The exceptionally wet season favourable to the development of internal parasites and the shortage of fodder owing to excessive rainfall and floods must be regarded as the causes.

Agriculturists generally attribute the disease to feeding on *panna* or rotten grass, that is grass that has been flooded and become muddy and rotten. The fact is that grasses that grow on marshy land are generally innutritious and impoverished animals readily succumb to the attacks of internal parasites especially 'strongyles'. In many cases it is uncertain if death should be attributed to parasitism or starvation. A number of *post-mortems* were made on animals that had succumbed to *gillar* and in some no parasites were detected. In these cases it may be that the symptoms arise from pure debility due to inferior or harmful food plants.

A further investigation into the kinds and description of parasites which cause the condition will be made as opportunity permits. So far as has been ascertained at present 'strongyles' are the usual causal agents though other species of parasites may be present as well. Feeding experiments with suspicious plants and grasses will also be carried out if possible.

It remains to record that with a liberal and nourishing diet animals usually recover without medicinal treatment if they are not too far gone, but this is recognised by few agriculturists. Those who do recognise it admit that some animals are saved in this way, but when fodder is not available they let matters slide and lose their cattle. The question of supply of fodder will be discussed later. It is intimately connected with this disease which assumed such serious proportions in the past year and may do so again. As soon as an adequate supply of fodder became available and the land began to dry up reports of the disease became less, and many affected animals recovered. It is well-known that animals will recover from parasitic disease without medicinal treatment if liberally and judiciously fed.

Agriculturists give *goor* and *ghi* in this disease but they have little or no effect on its course. Those who can afford to buy gram and forage, and are liberal enough to do so, manage to save a number of their animals but these are exceptional cases.

Lung disease.

40. Contagious pleuro-pneumonia is not recognised as a contagious disease and in point of fact appears to be uncommon. Lung diseases are included under the name of *tili* and are well-known among agriculturists.

Cattle suffering from chest affections are frequently brought to hospitals for treatment.

Cow-pox.

41. Cow-pox and sheep-pox are not uncommon.

Surra.

42. *Surra* is well-known in the district in equines and several villages in the Ajnala Tahsil suffered from its ravages during the past autumn of 1908. Few recognise that the disease is spread by biting flies and that precautions are necessary, but in time they will probably learn this. There is no treatment practised for this disease.

Strangles.

43. Strangles is also well-known and recognised. Agriculturists are in the habit of fomenting the symptomatic abscess and the animals generally recover.

Other diseases.

44. Surgical diseases and skin affections are the most usual of the ordinary affections to which animals are liable and no other diseases appear to call for any special remarks.

45. A table giving the vernacular names used for the common specific diseases and their treatment is given below :—

Native treatment.

English.	Vernacular.	Native treatment.
Rinderpest	Wah, Mok, Seetla ...	Isafgol, dhania, naspal, mehdi leaves, decoction of keekar bark, ghi, milk and goor, chiretta salt and nitre, rasout and water.
Foot and mouth disease.	Munh khur ...	Decoction of keekar bark for mouth and feet, ghi to mouth lesions, for foot lesions animals made to stand in hot sand and the residual solution after treating skins.
Hæmorrhagic septicæmia.	Ghotu, Galghotu, Garhi.	Ghi, black pepper, kala zeera internally, externally, firing and poultices of boiled bhoosa.
Anthrax	Garhi	Do. do. do.
Black quarter ...	Goli, Zahrbad ...	Do. do. do.
Lymphangitis ...	Zahrbad	Chillies, kala zeera, ajwain, ginger, ak leaves internally. Externally, zeera ointment poultices of farash leaves.
Tympanitis	Vill, Ophara ...	Internally, oil, ghi, butter milk, country spirit, decoctions of aniseed and mango.
Verminous anæmia ..	Gillar	Goor, ghi, moth and keekar leaves.
Surra	Pheta, Sokra ...	*Nil.*
Strangles	Khonak, Khub ...	Internally, assafœtida, ginger, onions, goor and gugal, externally, poultices of bathu and linseed meal.
Skin diseases ...	Khujli, Kharish, Khurk.	Applications of tarameera oil which is also given internally.
Lung disease ...	Tili	Internally, naspal and butter. Bleeding from nose and tail burning tips of horns.

GLOSSARY OF NATIVE TERMS.

Isafgol ... Spogel seeds—plantago ovata.

Dhania ... Coriander seeds—coriandrum sativum.

Naspal ... Pomegranate bark—punica granatum.

Mehdi ... Henna—Lawsonia inermis.

Kikar ... Acacia arabica.

Zeera	... Carraway seeds—carum carui.
Kala zeera	... Cumin—cuminum cyminum.
Rasout	... Juice of root of Berberis aristata.
Ajwain	... Omum—Ptychotis fructus.
Ak	... Calotropis gigantea.
Farash	... Tamarix orientalis.
Mango	... Mangifera indica.
Moth	... Phaseolus aconitifolius.
Gugal	... Bruised root of Dolomiœa macrocephala.
Bathu	... Chenopodium murale.
Tarameera	... Brassica eruca.
Neem	... Azadirachta indica.
Goor	... Molasses.
Ghi	... Clarified butter.

Veterinary hospitals,

46. Latterly agriculturists living in villages in the vicinity of the veterinary hospitals that are now established at each tahsil headquarters show an increasing tendency to take their animals, especially horses, there for treatment. In some cases animals are taken long distances, journeys of 20 miles or so being not uncommon. But animals, especially cattle, are not taken long distances conveniently and there can be no doubt that an increased number of veterinary hospitals with two men stationed at each to tour alternately in the area allotted to each hospital would be of great benefit to agriculturists. Zamindars are rapidly gaining confidence and the time is coming when the growing demand for veterinary attendance will have to be dealt with. Apart from the humane point of view the increased value of all agricultural animals makes intelligent treatment of their diseases economical.

Treatment in villages.

47. Cases of ordinary disease, especially surgical, which are the most common, are best treated at hospitals whenever possible but they will also be treated more in villages as the confidence of the people increases. There is a tendency at present to regard the veterinary assistant when on tour as an unbidden guest and in the ordinary course treatment in villages is not popular.

Epidemic and parasitical diseases claim a large number of victims. By means of inoculation, etc., the Civil Veterinary Department manages to save a large number that would otherwise die but much more could be done with an increased staff and more help from the people themselves.

A tactful man can do a good deal, but from the point of view of perfection, outbreaks cannot be dealt with satisfactorily until the law can be put in force to compel notification, segregation when necessary, and hygienic methods.

V.—SUPPLY OF FODDER.

Fodder crops.

48. In normal years there is plenty of fodder grown in the Amritsar district and it may be said to be practically secure against famine owing to the existence of canal irrigation.

If, however, there is failure of or damage to the fodder crops in any year the cattle have to suffer as there is practically no grazing, or reserve of fodder. The excessive rainfall in the autumn of 1908-09 caused severe damage to the fodder crops and the year must, therefore, be regarded as quite an abnormal one.

Wheat.

49. Of the rabi crops, wheat is the chief. In 1908-09 it covered 304,451 acres or 32 per cent. of the whole cultivable area. This percentage was only 89 per cent. of the normal, however.

After ripening and threshing, the broken straw (bhusa or turi) is carefully stored in conical stacks for use in the following winter as dry fodder.

Bhusa.

50. Bhusa is one of the principal cattle fodders and if the crop be insufficient or damaged the results are serious. Green wheat is occasionally used for fodder (khasil). The other principal rabi crops are barley, gram, and oilseeds. Oats are not much grown.

Barley.

51. Barley may be cut green for fodder. The grain is used for horses in the form of "ardawa" and for milch cows in the form of 'sattoo'.

Gram.

52. Gram is a staple food for horses. The straw makes excellent fodder for cattle.

Oilseeds and cakes.

53. The various oilseed plants are commonly given in the unripe condition. The cakes derived from the various oilseeds are largely given to milch cows and buffaloes to increase the flow of milk.

Senji.

54. Of purely fodder crops "Senji" (melilotus parviflora), a luxuriant trefoil, is grown everywhere where there is irrigation. It is an indispensable crop for stall-fed cattle and is given chopped up with bhusa or other straws. Unfortunately it does not give a second crop like many other leguminous plants such as clovers and lucerne.

Methi.

55. "Methi" (Trigonella Fænumgrœcum) is also grown to a considerable extent as a green fodder.

Maina.

56. "Maina" (Medicago denticulata) is a weed of the trefoil variety which grows plentifully in uncultivated fields and on stubbles. It is used as fodder for cattle.

Millets.

57. Of the kharif crops "jowar" (sorghum vulgare) is the principal cattle fodder. When sown thick as a purely fodder crop it is called "chari". As a rule it is not irrigated and is dependent on the rains. In the early winter when the plough cattle are hardest worked they are almost dependent on "chari" and the failure of the rains is quite a calamity for them therefore. Similarly it is a calamity if the "chari" crops are damaged by excessive rain. The smaller millets are not grown very much. The stalks are given to cattle when available.

Maize.

58. Maize is largely grown and the stalks are given to cattle but they are not a good fodder.

Rice straw.

59. Rice straw (parali) is not regarded as of much value and is frequently not harvested. Cattle eat it when other fodder is short.

Sugarcane.

60. Sugarcane is grown on irrigated land in fair quantity and may be given to cattle in years when cheaper fodder is scarce.

Pulses.

61. The usual kharif pulses are grown and the straws are used for fodder. Moth (phaseolus aconitifolius) bhusa is a valuable fodder for cattle especially milch cows.

Cotton seed.

62. Cotton seed is commonly given to milch cows in the cold season to increase the fatty properties of the milk.

Grazing.

63. Grazing for cattle in the Amritsar District is practically confined to that obtainable in very limited quantity in the 'rukhs' mentioned in Chapter I and in the 'Bet' or lowlying land on the banks of the Beas and Ravi. Any waste land near villages on which cattle are nominally turned out to graze is generally useless equally for cultivation and grazing owing to the presence of 'kallar'. Hay is not made in this district to any extent as grass is scarce, but in the 'rukhs' the contractors occasionally stack hay after a good season.

Grasses.

64. The following are the principal grasses, etc., found in the district with their botanical names and feeding qualities :—

Vernacular.	Botanical name.	Feeding qualities.
Khabbal or dub	Cynodon dactylum	excellent.
Sanwak, sawank	Panicum colonum	good.
Palwan	Andropogon pertusus	good.
Dhaman	Pennisetum cenchroides and cenchrus montanus	good.
Chhimbar	Eleusine flagellifera	very fair.
Madhana	Eleusine ægyptica	very fair.
Baru*	Sorghum halepense	fair.
Lanb	Aristida depressa	fair, grows on "kallar"
Dila	Cyperus tria	inferior.
Dab	Eragrostis cynosuroides and E. pilosa	poor.

* Baru occasionally causes poisonous symptoms.

Vernacular.	Botanical name.	Feeding qualities.
Panni (khaskhas)... ...	Andropogon muricatus...	poor.
Sarwala	Heteropogon contortus...	poor.
Khawi	Andropogon schoenanthus	very poor.
Sarkanda, sarkara (munj)	Saccharum ciliare	very poor.
Kans, kahi, kah, rans ...	Saccharum spontaneum...	very poor (useful buffalo fodder).

N.B.—In the larger genera such as panicum, andropogon and eragrostis there are no doubt several other species not recognised by agriculturists under separate names.

Of the above dab, panni and kans are the principal grasses found in the "bet" (riverain) lands. "Dila" is also plentiful and though not a grass is included in the table. Pilchi (Tamarix dioica) is common along the banks of the rivers and is eaten to some extent.

Owing to the very limited garzing in the district the cattle may be said to depend mainly on fodder crops. Whenever, therefore, from climatic reasons sufficient fodder is not produced or is spoilt, the cattle die of starvation or become so impoverished that they become very susceptible to disease and die in consequence. The precarious grazing to be found sometimes on canal banks, by the sides of the roads, and on stubbles is hardly worth taking into consideration though at times animals have to subsist almost entirely on it. The leaves of certain trees are used sometimes as fodder for cattle. Those of the "ber" (zizyphus jujuba) are valued in this connection and buffaloes are fond of "dhak" (butea frondosa) leaves.

Sometimes in bad years herds of cattle are driven from the central part of the district to the "bet" lands or to the Lahore District where more grazing is obtainable. It would be better if the system of driving cattle to other places in bad years were taken advantage of more, but there are many difficulties in the way of the man who owns but a few cattle. With the exception of "bhusa" and "chari" there is little or no fodder stored.

Wheat being the desirable crop the minimum amount of purely fodder crops is put down so that there is no appreciable margin in a bad year. There is a custom also of keeping useless cattle, that cannot be provided for comfortably, to the detriment of the working bullocks. It is true that their manure is an asset but the people do not usually make the best use of it. The Sikhs do not care to sell their cattle to strangers for fear they should get into the hands of Mahommedans or skin-dealers and appear to prefer to see them die of starvation when fodder is scarce.

The fodder question.

65. The fodder question will receive more attention no doubt when farm animals become so valuable that it will pay the agriculturist to cater for their wants just as much as it pays him to grow wheat. But the people are very conservative and economic lessons have to be learned in the hard school of bitter experience. There are probably very few civilised countries in which well defined agreements between landlord and tenant are not always required, laying down the uses to which the land is to be put and the rotation of crops to be adopted. Every far seeing landlord must see that it is to his interest and that of his tenants in the future that a proper rotation is adopted and that the farm animals are provided for.

It might be feasible to so arrange the scale of charges for water rates that there would be more incentive to grow fodder crops than there is at present and this matter might be referred to the Canal Department for opinion.

Finally it may be said that a fodder famine in the Amritsar District would be practically unknown if sufficient fodder crops were grown by the people. Since the district has come under flow irrigation damage to forage crops does not depend so much on the failure of the rains, though in such a case the 'chari' crop suffers, as it does from losses from the floods which so frequently occur in wet seasons.

Famines.

66. Before the construction of the Bari Doab Canal, Amritsar, like the rest of the Punjab, was periodically visited by famine. The district suffered from scarcity in

1868-69 but since then there has been no distress among the people deserving of mention and, owing to the large proportion of cultivation irrigated by either wells or canals, it is now practically secure from famine. It may be mentioned that the crops matured in the famine year of 1899-00 amounted to 76 per cent. of the normal. Cattle fodder is said to have been scarce in the years 1896, 1900, 1901 and 1906. As stated above, the cattle suffer severely when rain is in excess and the autumn of 1908 was a particularly bad year in this respect in the low-lying parts of the district.

VI.—FAIRS AND SHOWS.

History.

67. The cattle and horse fairs held regularly at Amritsar are renowned throughout the Province and well known beyond it. Their origin may be traced from the time of the Sikhs. At one time the cattle fairs were held outside the west gate of the city and the horse fairs within the city. For rather more than 20 years they have been managed by the Municipality and they are a great source of income to that body.

The cattle fair has now been definitely allotted a piece of ground on the side of the Jullundur road south of the tahsil buildings and the horse fair is held on the ground between the city and the fort.

The fairs are held twice a year that is at the Baisakhi and Dewali festivals. They usually last for about ten days.

Number of cattle present. Statement III.

68. Statement III supplied by the Municipality shows certain particulars in regard to the number of animals brought to the cattle fairs, the average prices obtained and the amount realised in fees during the years 1906, 1907 and 1908. A very large number of animals especially buffaloes change hands at these fairs and there is considerable dealing in camels. As may be gathered from the record of the average prices realised most of the animals are very inferior in quality. Butchers and skin-dealers are the principal purchasers. A certain number of working bullocks may be offered for sale at very high prices. Good milch cows are rarely offered and most of those belong to the Gujars of Amritsar City.

69. The large amount realised in fees on sales demonstrates the great trade that goes on.

Fees charged.

At one time one anna per head was charged but this was raised first to two annas and then to three annas and this was levied on every animal that left the fair sold or unsold. The most recent arrangement is to charge a fee of five annas on every animal sold and a registering fee to six pies in addition. This is said to be a popular arrangement.

A fee of eight annas is charged for every camel sold.

70. No record is kept of where animals are brought from or where they are taken to, but cattle are brought from all over the province mainly by cattle-dealers. A large number of buffaloes come from the United Provinces. The cattle-dealers buy and sell among themselves visiting many of the fairs in the Province and on the road buy and sell in villages. Many of the purchasers of buffaloes come from the N. W. F. Province and from over the border.

Whence brought and whence taken.

71. As shown in Statement III, liberal sums are given in prize-money for cattle from Municipal funds. A strong judging committee made up of the local officials and *raises* (native gentlemen) and assisted by Officers of the Civil Veterinary Department awards the prizes. The cattle-dealers, however, who form the great majority of those who attend the fairs, take no interest in the showing as their animals are usually very inferior.

Prize-money for cattle.

From a show point of view the Amritsar cattle-fairs are disappointing, very few animals of exceptional merit being brought.

The bulk of the prize-money in the cow and buffalo classes is taken by the 'Gujars' from Amritsar City. A few zamindars of the neighbourhood who possess good bullocks take most of the remaining prizes. The amount given away in prizes would be considered very large by a District Board, but in spite of the heavy expenses of the fairs, there is a

large margin of profit to the Municipality and the money is given away with a light heart. The prizes may add somewhat to the popularity of the fairs although they are well established, but it is doubtful if they do much to encourage breeding. People will not bring cattle long distances merely for prizes and in this they show their wisdom. The risks entailed in bringing valuable cattle to a fair like Amritsar are considerable.

Possibly the 'Gujars' of Amritsar City are induced to breed better cows in the hope of gaining prizes but their ordinary trade is in itself a large factor in that direction. In any case a multiplicity of small prizes is a mistake at any show. To really encourage the owners of exceptional animals, it is of great importance to give a few good prizes in each class. Many of the members of cattle show committees are apt to allow their good nature to overcome their judgment and are inclined to give a small prize to every animal that enters the ring whatever its deformities, especially if the owner is popular.

Cattle disease at fairs.

72. Epidemic disease frequently breaks out at these fairs and they are undoubtedly a great factor in spreading disease. A strong veterinary staff is always deputed to attend the cattle fairs by the Civil Veterinary Department and arrangements for inspection, segregation, disposal of carcases and treatment, etc., are made. A temporary dispensary is established in the fairs for the treatment of ordinary cases.

Horse fairs. Statement IV.

73. As Amritsar is a selected district the Civil Veterinary Department has nothing to do with the horse fairs. Certain particulars in regard to the number of equines brought to the fairs and the prices paid during the past three years are shown in Statement IV.

For the past two years prizes have been given at the Baisakhi fair only. The Amritsar horse fair is one of the best known in the Province and is largely attended, purchasers and sellers coming from considerable distances. A number of remounts for native cavalry regiments are generally obtained and a very large number of mules change hands.

The horse-dealer is much in evidence and comparatively few purchases are made except through the dealer middleman who buys up most of the animals belonging to breeders before they come into the fairs.

A very small proportion of the animals in the fairs are bred in the Amritsar District and the horse fairs held at Amritsar are not successful because Amritsar is a horse breeding district but because it is centrally and conveniently situated.

VII.—GENERAL.

Work on tour.

74. An extensive tour was made through the district every part being visited. A large number of villages adjoining the routes were inspected, the people interviewed and the animals examined. Cases of foot and mouth disease, rinderpest, hæmorrhagic septicæmia, gillar, etc., were found and investigated and in some cases *post-mortems* were performed. Careful enquiries in regard to the incidence of disease generally were made. The inoculation and other work of the veterinary staff was checked also.

The Veterinary Inspector of the division and the itinerating veterinary assistant of the district accompanied me throughout. They both had a very good knowledge of the district, the stock in it and the agricultural conditions generally. They were also well acquainted with the people who appeared to have full confidence in them.

The veterinary hospitals.

75. The veterinary hospitals at Amritsar, Tarn Taran and Ajnala were inspected and found in good order. The former is supported by the Amritsar Municipality and the two latter by the District Board. The attendance of patients is increasing rapidly at Tarn Taran and Ajnala and that at Amritsar which is an old established hospital is satisfactory. The people in the neighbourhood of the tahsil hospitals especially appeared to know and appreciate the advantages to be gained from them. There is no doubt that hospitals are very advantageous to the people within a radius of about ten miles. Cases are brought in frequently also from villages outside the ten mile radius, several instances of twenty miles having come to notice. Indoor

treatment is not very popular at present as the cost of living under these conditions both for man and beast is expensive. Accommodation for indoor patients has only recently been provided at hospitals and the people have not yet learnt the great advantages to be gained from it. There is no doubt that it will become more popular in time especially as animals become dearer and better worth the expenses of treatment.

There is a great demand for a veterinary hospital at Jandiala where the itinerating veterinary assistant has his headquarters and a dispensary where he treats animals when not on tour.

This should be considered when the services of an additional veterinary assistant can be obtained for the district.

There were numerous requests for veterinary hospitals in other places which obviously cannot be thought of at present. The Pinjrapole at Amritsar was inspected. It is in charge of a veterinary assistant employed by the management.

Stud bulls.

76. Most of the district board bulls were inspected and were found to be in good condition. Two had strayed of which one has since been recovered. One or two of the recently imported animals were rather wild but the people seemed to think that they would soon settle down with kind treatment which is in fact the case. A number of dedicated bulls were seen most of which were useless. At one place only ("Jamarae") in the Tarn Taran Tahsil did I find a stud bull that had been purchased from village funds and he was quite a fair animal. There was a general desire to have bulls especially in the Tarn Taran Tahsil.

General remarks.

77. So far as agricultural stock is concerned Amritsar must be regarded as an unsatisfactory district. It is dependent on other districts for its supply of cattle and is subject to losses from damage to fodder crops and from epidemic disease.

It is unlikely that Amritsar could supply its own requirements in the shape of bullocks even under the most favourable circumstances owing to the lack of grazing facilities, but a good deal of help could be given by

encouraging cultivators to keep good cows and bulls and to look after their calves.

The veterinary department can help considerably in fostering breeding and in the prevention and treatment of disease if sufficiently staffed and provided with funds.

To deal effectively with these questions legislation is no doubt essential but ideal schemes are impossible until the people are more advanced and ready to regard legislation of this kind in the proper light.

In the meantime, much good can be done by expansion on present lines and the demand will be greater as the value of stock increases and education advances.

STATEMENT I.

SHOWING THE NUMBER OF ANIMALS IN THE DISTRICT IN FEBRUARY 1909.

1	2	3	4	5	6	7	8	9	10	11	12	13
Name of Tahsil.	Bulls and bullocks.	Cows.	Male buffaloes.	Cow buffaloes.	Young stock: calves and buffalo calves.	Sheep.	Goats.	Horses and ponies.	Mules.	Donkeys.	Camels.	
Amritsar 1909 ...	44,988	30,510	20,754	42,078	43,925	5,893	23,652	5,358	665	7,685	103	
Amritsar 1904 ...	**51,377**	**34,723**	**20,786**	**39,461**	**51,262**	**7,570**	**45,221**	**5,211**	**608**	**8,616**	**151**	
Tarn Taran 1909 ...	45,199	27,109	13,294	47,613	49,146	13,140	32,580	8,517	762	6,797	322	
Tarn Taran 1904 ...	**52,202**	**31,618**	**13,907**	**43,367**	**57,601**	**13,315**	**52,437**	**7,905**	**635**	**7,528**	**535**	
Ajnala 1909 ...	25,712	22,261	13,357	24,315	25,955	7,466	11,714	2,574	541	4,307	178	
Ajnala 1904	**28,478**	**23,176**	**13,745**	**21,876**	**29,648**	**11,188**	**30,923**	**2,498**	**323**	**5,275**	**147**	
Total 1909	115,899	79,880	47,405	114,006	119,026	26,499	67,946	16,449	1,968	18,789	603	
Total 1904	**132,057**	**89,517**	**48,438**	**104,704**	**138,511**	**32,073**	**128,581**	**15,614**	**1,566**	**21,419**	**833**	
Amritsar City 1909...	2,025	5,123	561	2,742	3,441	157	1,174	1,113	182	1,162	17	Including civil lines and suburbs.
Amritsar City 1904	**1,878**	**5,555**	**203**	**2,263**	**5,058**	**440**	**1,739**	**1,254**	**192**	**1,384**	**5**	

STATEMENT II.

SHOWING THE NUMBER AND DISTRIBUTION OF BULLS USED EXCLUSIVELY FOR BREEDING PURPOSES IN 1909.

1	2	3	4	5	6
Name of Tahsil.	Total number of bulls, bullocks and cows.	Number of bulls reared or bred at Government farms.	Name of Farm.	Number of other bulls used exclusively for breeding.	Remarks.
Amritsar	75,498	...	Hissar	43 *	* 5 Dhanni.
Tarn Taran	72,308	4	...	130	
Ajnala	47,973	...	...	23 †	† 4 Dhanni.
Total ...	1,95,779	4	...	196	

STATEMENT III.

SHOWING VARIOUS PARTICULARS REGARDING THE CATTLE FAIRS AND SHOWS HELD IN THE AMRITSAR DISTRICT DURING THE PAST THREE YEARS.

1	2	3	4	5	6	7	8	9	10	11	12	13
	Total number of stock present.							Average price of animals sold.				
Name of fair or show.	Bulls.	Bullocks.	Cows.	Young stock.	Buffaloes	Camels.	Others.	Bulls.	Bullocks.	Cows.	Buffaloes.	Camels.
								Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Baisakhi 1906	9,305	11,712	19,036	11,410	41,631	1,767	...	17 0 2	28 3 2	17 7 0	52 2 4	161 3 4
Dewali 1906	3,257	3,121	9,128	8,976	29,961	3,455	8	18 2 9	21 5 7	14 13 11	59 14 11	143 2 0
Baisakhi 1907	9,967	7,836	17,567	9,000	32,421	1,691	2	19 13 0	27 0 9	19 9 4	53 13 2	168 10 3
Dewali 1907	3,596	4,424	6,644	8,123	26,673	2,109	...	15 14 6	18 7 4	17 11 9	65 1 10	159 3 5
Baisakhi 1908	A	A	A	A	A	A	A	18 3 11	25 7 3	16 12 3	48 7 9	64 0 4
Dewali 1908	A	A	A	A	A	A	A	21 5 0	32 6 5	35 0 2	56 1 0	183 11 0

A.—Since the introduction of the new scheme by the Examiner, Local Funds Accounts, Punjab, no record is kept.

STATEMENT III—*concluded.*

SHOWING VARIOUS PARTICULARS REGARDING THE CATTLE FAIRS AND SHOWS HELD IN THE AMRITSAR DISTRICT DURING THE PAST THREE YEARS—*concluded.*

1	14	15	16	17	18	19	20	21	22	23
Name of fair or show.	Amount realized in fees.	Total number of animals competed for prizes.	Prizes offered from					Amount actually awarded.	Number of medals awarded.	Remarks.
			Imperial funds.	Provincial funds.	Municipal funds.	Other sources.	Total.			
	Rs. a. p.				Rs.		Rs.	Rs.		
Baisakhi 1906	24,684 12 6	310	...	...	1,500	...	1,500	1,448	...	
Dewali 1906	16,602 10 3	221	...	...	1,500	...	1,500	1,127	1	
Baisakhi 1907	21,157 4 0	358	...	...	1,450	...	1,450	1,350	...	
Dewali 1907	14,920 12 0	385	...	...	1,450	...	1,450	1,441	...	
Baisakhi 1908	18,848 0 0	294	...	...	1,450	...	1,450	1,285	...	
Dewali 1908	12,130 1 0	135*	...	...	1,450	...	1,450	1,040	...	

*Poor attendance accounted for by malaria epidemic.

STATEMENT

SHOWING VARIOUS PARTICULARS REGARDING THE HORSE FAIRS HELD

Name of Fair.	Total number of animals present.			Total number competing for prizes.			Number of horse stock present not including branded mares.	
	14 hands and over.	Under 14 hands.	Total.	14 hands and over.	Under 14 hands.	Total.	Belonging to breeders.	Belonging to dealers.
Baisakhi 1906 ...	876	5,232	6,108	...	...	164	988	3,604
Dewali 1906 ...	1,328	5,010	6,338	54	...	54	829	3,469
Baisakhi 1907 ...	973	5,184	6,157	...	...	47	878	3,786
Dewali 1907 ...	1,027	5,255	6,282	...	...	...	1,054	3,051
Baisakhi 1908 ...	1,558	4,427	5,985	...	...	52	974	3,453
Dewali 1908 ...	1,233	2,157	3,390	...	...	...	975	1,531

IV.

IN THE AMRITSAR DISTRICT DURING THE PAST THREE YEARS.

Number of remounts purchased.							Prices paid for remounts.			Number of mules purchased.		
For Remount Dept.		*For Native Cavalry.*		*For Police.*								
Over 3 years.	Under 3 years.	Over 3 years.	Under 3 years.	Over 3 years.	Under 3 years.	Total.	Highest price.	Lowest price.	Average price.	By Government.	By others.	Total.
							Rs.	Rs.	Rs.			
...	5	39	29	...	...	73	725	40	83	74	625	699
...	...	30	32	...	...	62	700	45	69	293	460	7 3
...	4	27	85	...	...	116	825	7	68	167	470	637
...	2	30	55	...	...	87	347	214	268	77	446	523
...	2	62	69	...	...	133	380	140	190	110	314	424
...	2	43	31	...	...	76	340	272	305	189	238	427

STATEMENT IV—*concluded.*

SHOWING VARIOUS PARTICULARS REGARDING THE HORSE FAIRS HELD IN THE AMRITSAR DISTRICT DURING THE PAST THREE YEARS.

Name of Fair.	Prices paid for mules.			Prizes.					
	Highest price.	Lowest price.	Average price.	Sanctioned by Imperial Government.	Contributed from Provincial Revenues, District Boards, &c.	From other sources.	Total.	Amount actually awarded.	Number of medals given away.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Baisakhi, 1906 ...	375	100	134	300	100	...	400	370	One
Dewali, 1906 ...	375	54	132	400	100	...	500	383	Nil
Baisakhi, 1907 ...	400	100	144	250	100	...	350	321	One
Dewali, 1907 ...	376	60	145	...	...	...	...	...	...
Baisakhi, 1908 ...	300	75	149	450	100	...	550	433	One
Dewali, 1908 ...	300	95	131	...	...	...	...	...	...

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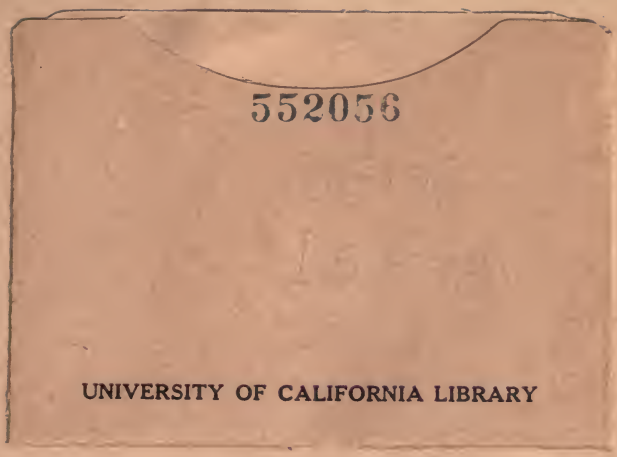
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